Taxonomic Notes on Ficus L., Asia and Australasia
Addendum II

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Summary

New species and varieties.—subgen. Urostigma, *F. microcarpa* Linn. f. var. *rigo* (Bailey) Corner; subgen. Ficus sect. Ficus, *F. aureocordata* Corner; sect. Rhizocladus Endl., *F. ampulliformis* Corner, *F. hypobrunnea* Corner, *F. convexa* Corner, *E. ovatacuta* Corner; sect. Kalosyce, *F. diandra* Corner; sect. Sycocarpus Miq., *F. moderata* Corner, *F. virescens* Corner, *F. megaleia* Corner var. *multinervia* Corner and var. *subuncinata* Corner, *F. uncinata* Becc. var. *subbeccarii* Corner *F. scortechinii* King var. *lanceata* Corner.

New subsections.—subgen Ficus sect. Sycocarpus Miq. subsect. *Papuasyce* Corner (type, *F. itoana* Diels) and subsect. *Lepidotus* Corner (type. *F. griffithii* Miq.).

Sect. Sycocarpus subsect. Pomifera Corner is reduced to sect. Neomorphe King ser. Auriculatae Corner.

The recent Royal Society Expedition to North Borneo, 1961, has produced three interesting new species and four new varieties, illustrative of the richness of the Bornean flora in this genus. One species, *F. diandra,* was found within a few miles of Kuching. Exploration of New Guinea forests is producing now a crop of climbing species of sect. Rhizocladus, and I have taken the opportunity to illustrate the figs of some species of this intricate section.

subgen. Urosigma Miq.

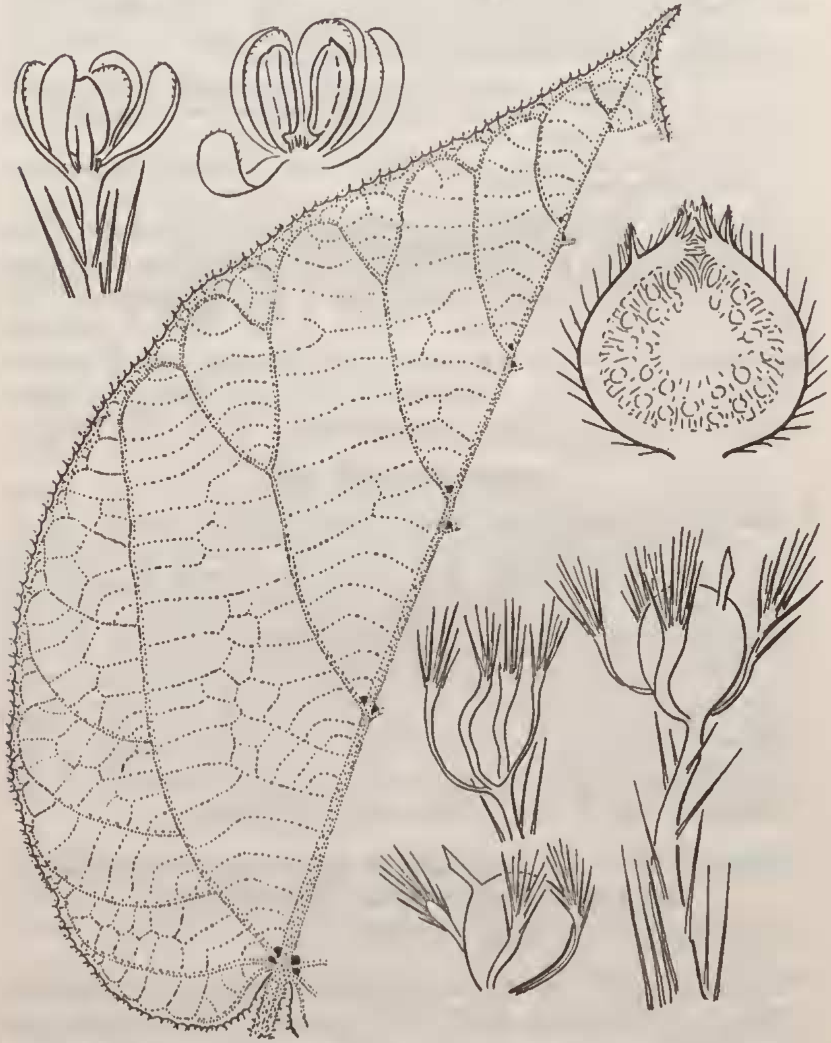
F. microcarpa Linn. f. var. **rigo** (Bailey) Corner comb. nov.—*F. rigo* Bailey, Queensl. Agric. J. 1 (1897) 235.—*F. retusa* L. var. *rigo* (Bailey) Diels, Bot. Jahrb. 67 (1935) 183.—A few trees of this variety are planted in the main streets of Port Moresby. They differ from typical *F. microcarpa* in the absence of copious aerial roots from the branches, by the rather broad and obtuse leaves, and by the slightly larger figs which ripen yellow to orange without becoming pink, red, or purple. In the herbarium it would seem impossible, without field-notes, to distinguish v. *rigo* from v. *latifolia* (Miq.) Corner.

subgen. Ficus sect. Ficus subsect. Eriosycea (Miq.) Corner ser. Auratae Corner subser. Auratae Corner

Corner, Gard. Bull. Sing. 17 (1960) 420.

F. aureocordata Corner sp. nov.—Frutex foliis spiraliter dispositis. Ramuli et petioli pilis rigidis aureobrunneis 1–2 mm. longis vestiti; lamina supra appresse pallide scabrido-pilosa; nervi et nervuli subtus pilis pallidis –0.5 mm. longis vestiti. Ramuli 5–6 mm. crassi. Lamina –32 × 21 cm., ovato-cordata, apice –15

mm. longo subacuminato, basi late et alte cordato, ciliato-dentata, membranacea, supra scabrida, subtus hispidula, sicco flavescens; costis lateralibus utrinsecus 5–6, subtus valde elevatis, glandulis axillaribus praeditis, marginem versus furcatis et inarcuatis; intercostis subtus elevatis, breviter pilosis, haud velutinatis; areolis planis glabris; costis basalibus utrinsecus 2–3, –½ laminae elongatis, glandulis basalibus 2–4 praeditis; petiolo 8–12 cm. longo. Receptacula 17 mm. lata, axillaria sessilia subconoidea, pilis flavidis 1–2 mm. longis dense hispida; bracteis basalibus ?, eruptis; bracteis lateralibus paucis, –3 mm. longis, appresse pilosis; bracteis apicalibus erectis, appresse pilosis, ut in cono 3 mm. alto confertis; setis internis –2.5 mm. longis, aureis, copiosis; cellulis scleroticis in pariete tenui nullis.



Text-Fig. 1. *F. aureocordata* Corner, leaf, × ½; fig. × 2; male and gall-flowers, × 10. (Hans Winkler 895).

Flores masculi in ordinibus duobus instructi, prope apicem sessiles bistaminati, alteri pedicellati unistaminati; tepalis 4 spathulatis albidis; staminibus haud v. vix mucronatis, liberis, pilis confertis ad basim filamentorum. Flores cecidiophori sessiles v. pedicellis setosis –4 mm. longis praediti; tepalis 3–4, albidis, apicem versus dense setosis, lineari-spathulatis; ovario flavidulo sessili. Flores feminei ? Cystolitha nulla. Hans Winkler Pl. born. 895, Bt. Raja (112° 30′ E, 0° 30′ S), Borneo occid., 1,250 m. alt. in silva; typus, herb. Leiden.

Though known from the single collection, this is a distinct species, peculiar in retaining lateral bracts on the fig. It comes in leaf-shape between *F. bruneiensis* Corner and *F. eumorpha* Corner, but the male flowers ally it with *F. aurata* Miq. It increases the number of species of ser. *Auratae* to ten, of which nine are endemic in Borneo.

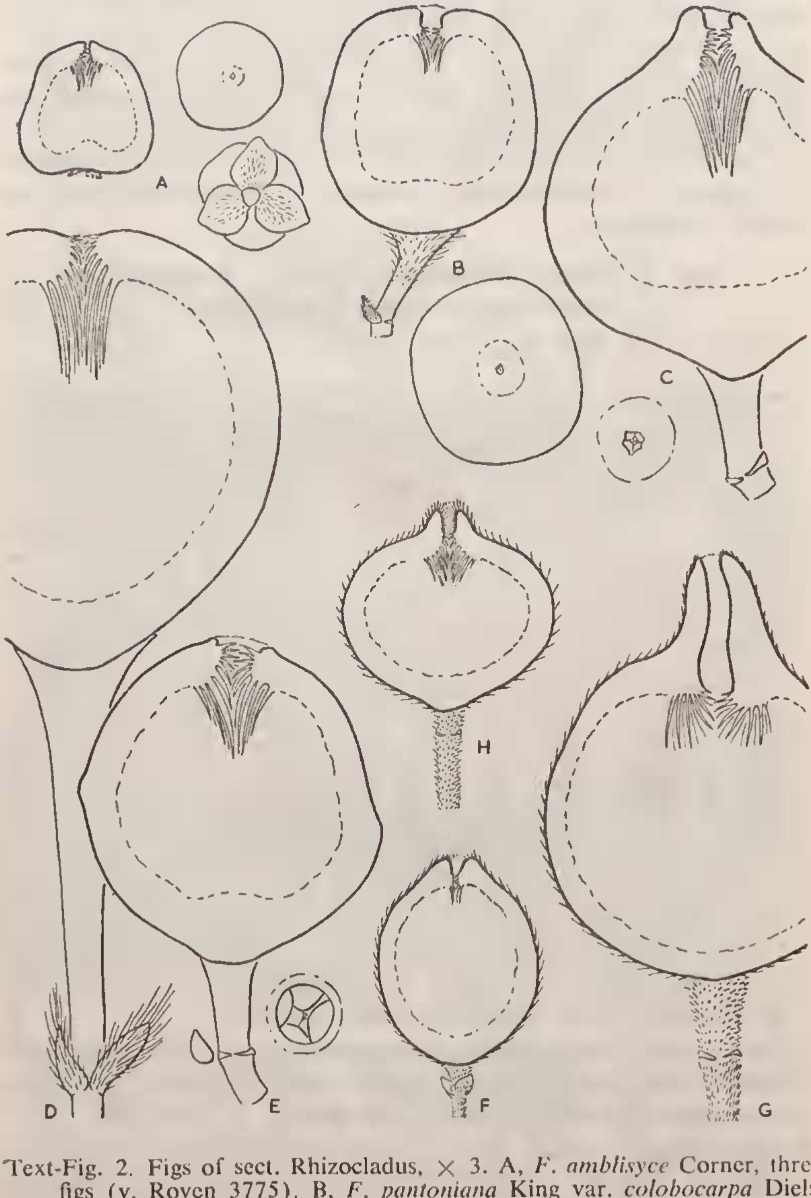
subgen. Ficus sect. Rhizocladus Endl. ser. Ramentaceae Corner subser. Pantonianae Corner

Corner, Gard. Bull. Sing. 18 (1960) 4.

F. ampulliformis Corner sp. nov. (Text-Fig. 2, H)—Scandens, foliis distichis. Ramuli, petioli, costae subtus pilis albidis v. brunneolis –1 mm. longis appressis tenuiter vestiti. Ramuli 2 mm. crassi. Stipulae –6 mm. longae, caducae, appresse pilosae. Lamina 2.5–5 × 1.5–3 cm., elliptica, subacuta, basi cuneato, valde coriacea marginibus incurvatis, scabrida, sicco dura fuscobrunnea; costis lateralibus utrinsecus 4, obliquis, subtus elevatis, inarcuatis; intercostis 0–3, laxis, subtus vix elevatis; costis basalibus utrinsecus 1, ad ½ laminae; petiolo 5–10 mm. longo. Receptacula axillaria binata hispidula, subglabrescentia; pedunculo 3–5 mm. longo; bracteis basalibus mox caducis; pedicello 0.5–1.5 mm. longo; corpore receptaculi 8–10 mm. lato, depresso-globoso, ostiolo ad basim papillae apicalis 1 mm. altae immerso; setis internis nullis, vel paucis minutis; cellulis scleroticis in pariete copiosis. Flores masculi pedicellati, ordinibus 2 v. 1 instructi; antheris submucronatis. Flores cecidiophori sessiles v. pedicellati; tepalis 3–4, lineari-spathulatis, rubris, liberis; ovario sessili ochraceo subindurato. Cystolitha amphigena. F. A. W. Schram, BW 7743, Kebar valley, West New Guinea, in silva c. 700 m. alt.; typus herb. Leiden.

This species is very distinct in its subseries from the small, stiff, subacute, and scabrid leaves with few veins and from the characteristic shape of the fig which recalls that of *F. villosa* Bl.

F. hypobrunnea Corner, sp. nov. (Text-Fig. 2, F)—Scandens, foliis distichis. Ramuli, stipulae, petioli, costae subtus, et receptacula pilis brunneis v. flavidis 0.5–1 mm. longis appressis vestiti. Ramuli 1.5–2 mm. crassi. Stipulae –8 mm. longae, dense sericeae. Lamina 2.5–5.5 × 1.2–2.5 cm., lanceolato-elliptica, subacuta, basi angustato rotundato v. subcuneato, coriacea laevis, marginibus vix incurvatis; costis lateralibus utrinsecus 5–6, oblique inarcuatis, supra vix impressis; intercostis 2–5, subtus leniter elevatis; areolis planis; costis basalibus utrinsecus 1 (–2), ad 1/3–½ laminae; petiolo 3–6 mm. longo. Receptacula axillaria solitaria, dense appresse pilosa, maturitate rubra; pedunculo 1 mm. longo; bracteis basalibus 1 mm. longis, ovatis, caducis; pedicello 1.5 mm. longo; corpore receptaculi 7 mm. lato, sicco



Text-Fig. 2. Figs of sect. Rhizocladus, × 3. A, *F. amblisyce* Corner, three figs (v. Royen 3775). B, *F. pantoniana* King var. *colobocarpa* Diels, two figs (Clemens 2124). C, *F. floccifera* Diels, (Carr 13493). D, *F. camptandra* Diels, (Buwalda 4993). E, *F. pantoniana* King, (Carr 15830). F, *F. hypobrunnea* Corner, (BW 9283). G, *F. baeuerleni* King var. *vulcaniformis* Corner, (NGF 3458). H, *F. ampulliformis* Corner, (BW 7743).

subellipsoideo, ostiolo minuto immerso; setis internis copiosis, –0.5 mm. longis, albidis; cellulis sclerotics in pariete copiosis. Flores feminei sessiles; tepalis 3–4 rubris, anguste spathulatis v. ovatis, liberis. Semina 1.2–1.5 mm. longa, compressa, anguste alata. Cystolitha amphigena. F. A. W. Schram, BW 9283, Oereb, div. Hollandia, New Guinea, in silva; typus, herb. Leiden.

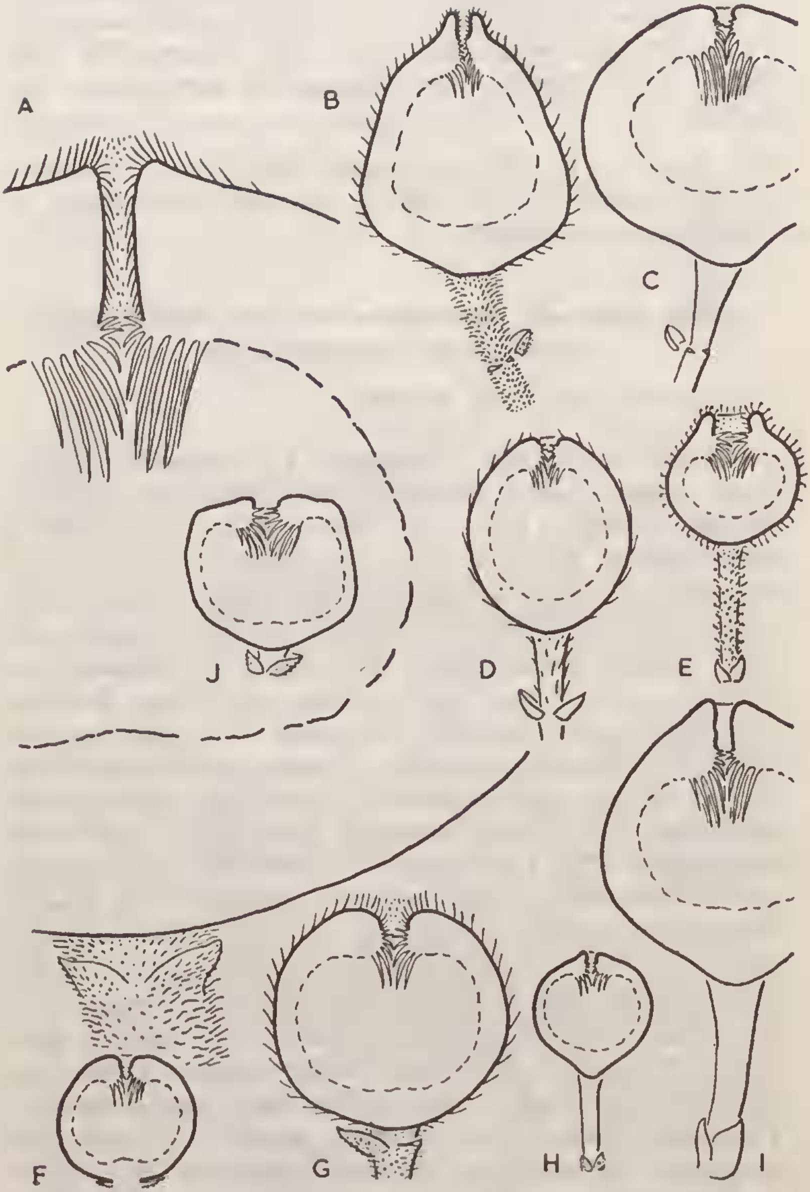
This is near to *F. amblisyce* Corner, but differs in the densely hairy, pedunculate and pedicellate fig, the smaller basal bracts, and the copious internal bristles.

subgen. Ficus sect. Rhizocladus Endl. ser. Ramentaceae Corner subser. Irritantes Corner

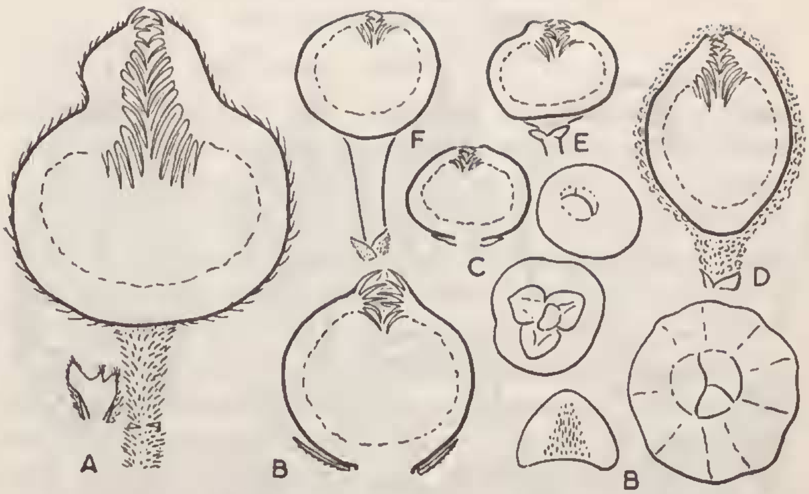
Corner, Gard. Bull. Sing. 18 (1960) 4.

F. convexa Corner sp. nov. (Text-Fig. 3, D)—Scandens, foliis distichis. Ramuli, petioli, et costae subtus primo pilis rigidis irritantibus brunneis 1.5–2.5 mm. longis strigosi; nervulis pilis albidis puberulis. Ramuli 2 mm. crassi. Stipulae –10 mm. longae, appresse puberulae, ad carinam pilis rigidis paucis affixis. Lamina –8 × 3.8 cm., ovato-elliptica v. ovato-lanceolata, subacuta v. obtuse subacuminata, basi cordato v. rotundato, rigide coriacea, convexa, inter costas bullata, marginibus decurvatis, subscabrida; costis lateralibus utrinsecus 5–7, supra impressis, subtus valde elevatis; intercostis –7, supra valde impressis, subtus vix elevatis; areolis glabris v. puberulis; costis basalibus utrinsecus 1, ad ¼–1/3 laminae; petiolo 5–10 mm. longo; bathyphyllis 1.5–3.5 cm. longis, ovato-cordatis, tenue coriaceis, bullatis, aequalibus, costis lateralibus utrinsecus 3–4 praeditis. Receptacula axillaria; pedunculo 0–1 mm. longo; bracteis basalibus 1.5–2.5 × 2–3 mm., ovatis acutis caducis, sparsim puberulis; pedicello 1–5 mm. longo; corpore receptaculi 7–9 mm. lato, subgloboso v. subellipsoideo, tenue appresse pilosa, ostiolo alte immerso; setis internis nullis v. paucis minutis; cellulis scleroticis in pariete crasso nullis. Flores feminei sessiles v. pedicellati; tepalis 3–4 rubris liberis. Semina 1.5–2 mm. longa, compressa, anguste alata. Cystolitha amphigena. Brass 31121, in silvis montanis 2,400 m. alt., Mt. Otto, Terr. New Guinea; typus, herb. Leiden. NGF 6350 (leg. H. S. McKee 1352), Goroka, 2,500 m. alt., Terr. New Guinea. Corner et Womersley s.n., Goroka, Daulo Pass, 2,400 m. alt., bathyphylla.

This may be a high mountain state of *F. insculpta* Summerh., but in addition to the smaller, more convex, and bullate leaf the smaller fig is pedicellate, lacks the flattened apex of *F. insculpta*, and also the sclerotic cells in the fig-wall.



Text-Fig. 3. Figs of sect. Rhizocladus, × 3. A, *F. sphaerocarpa* Corner, (Carr 13553). B, *F. villosa* Bl., (Sing. F.N. 25824). C, *F. sagittata* Vahl, (Sing. Bot. Gard.). D, *F. convexa* Corner, (Brass 31121). E. *F. uncinulata* Corner, (Sing. F.N. 30699). F, *F. recurva* Bl. var. *ribesioides* (Wall.) King, (Sing. F.N. 28605). G, *F. recurva* Bl. var. *lasiocarpa* Corner, (Sing. F.N. 27816). H, *F. recurva* Bl. var. *elegantior* Corner, (Sing. F.N. 30126). I, *F. recurva* Bl. var. *bridelioides* Corner, (Sing. F.N. 25941). J, *F. urnigera* Miq., (Sing. F.N. 25948).



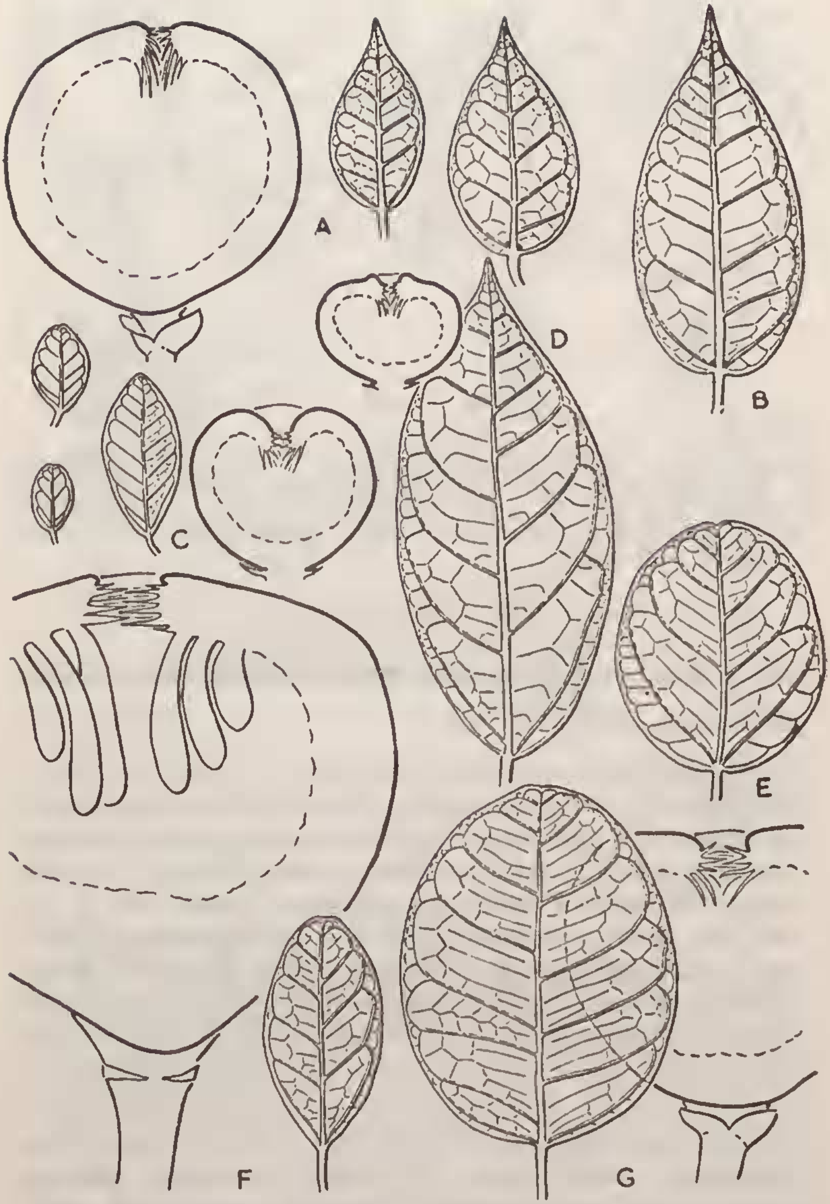
Text-Fig. 4. Figs of sect. Rhizocladus, × 3. A, *F. balanota* Diels, (Schlechter 17601). B, *F. sageretina* Diels, (Schlechter 18238). C, *F. excavata* Wall., three figs, (Sing. F.N. 29990). D, *F. araneosa* King, (King's Coll. 3565). E, *F. callicarpides* Corner, (Anderson 9890). F, *F. lanata* Bl., (Koord. 40149).

subgen. Ficus sect. Rhizocladus Endl. ser. Distichoideae Corner

Gard. Bull. Sing. 18 (1960) 5.

F. ovatacuta Corner sp. nov. (Text-Fig. 5, A)—Scandens, foliis laxe spiraliter instructis v. subdistichis. Ramuli et petioli pilis appressis brunneis –1 mm. longis vestiti, costa subtus sparsim appresse pilosa v. glabra. Ramuli 1.5–2 mm. crassi. Stipulae 6–10 mm. longae, glabrae, ad novellas persistentes. Lamina 3-6 × 1.5–3.2 mm., ovata, acuminato-acuta, basi rotundato subcordato v. late cuneato, coriacea, sicco brunnea; costis lateralibus utrinsecus 5–7, subtus vix elevatis; intercostis 0–2, laxis, areolis planis; costis basalibus utrinsecus 1, brevibus; petiolo 5–11 mm. longo. Receptacula axillaria glabra subsessilia rubescentia; bracteis basalibus 1.5 mm. longis, ovatis subacutis glabris; pedicello vix evoluto; corpore receptaculi 10–13 mm. lato (15–17 mm., vivo), subgloboso, ostiolo plano; setis internis et cellulis scleroticis nullis. Flores feminei sessiles v. pedicellati; tepalis 3–4, spathulatis, liberis, rubris. Flores neutri sessiles ostiolares. Semina ? Cystolitha amphigena sed supra sparsa. Brass 31624, in silva montana 1,950 m. alt. pr. Parosa, Okapa, Eastern Highlands, Terr. New Guinea; typus, herb. Leiden.

The large subsessile figs, the ovate-acute leaves, and the appressedly hairy twigs readily distinguish this species which seems to be nearer to *F. distichoidea* than to *F. phatnophylla*.



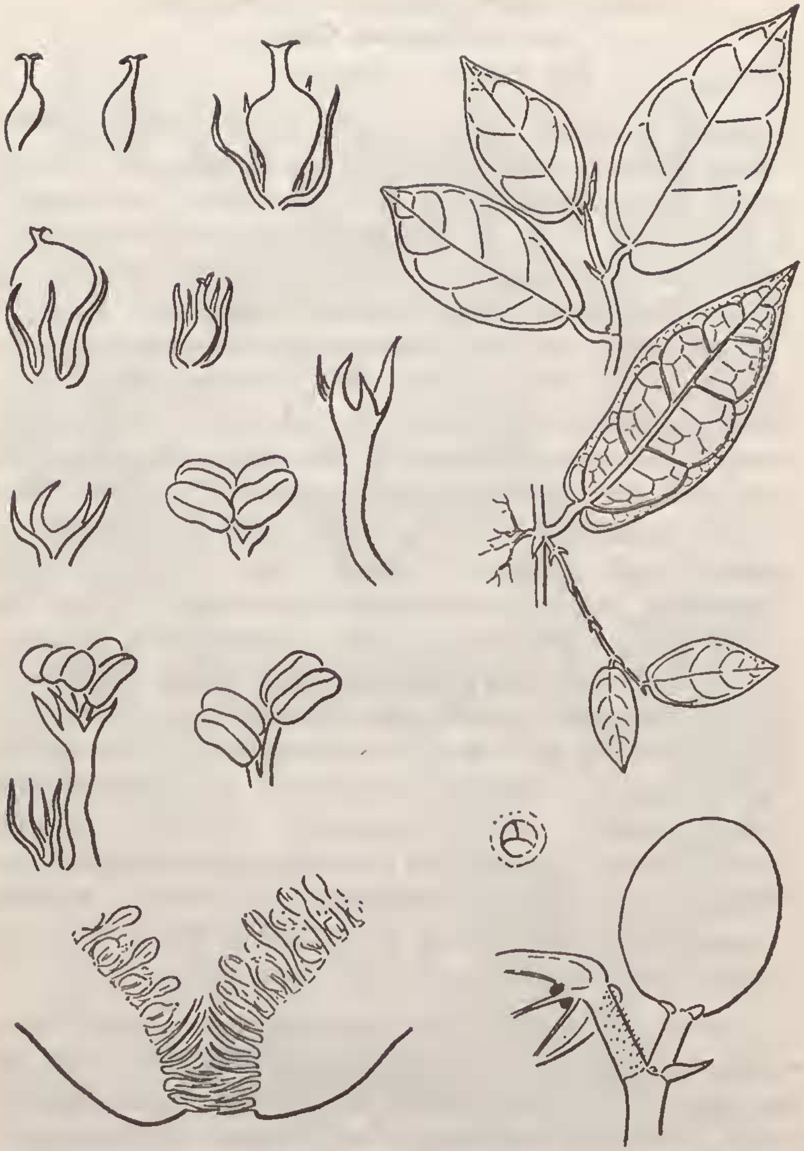
Text-Fig. 5. Figs of sect. Rhizocladus ser. Distichoideae, × 3. A, *F. ovatacuta* Corner, a fig and two leaves (Brass 31624). B, *F. phatnophylla* Diels, one leaf, (Ledermann 9406). C, *F. agapetoides* Diels, a fig and three leaves, (Carr 15799). D, *F. phatnophylla* Diels var. *glochidioides* Corner, (v. Leeuwen 10166). E, *F. calodictya* Summerh., one leaf, (Hoogland 4801). F, *F. distichoidea* Diels var. *megacarpa* Corner, a fig showing the large male flowers, and one leaf, (Carr 16031). G, *F. distichoidea* Diels, (Carr 12112).

Ficus L. subgen. Ficus sect. Kalosyce Miq. ser. Apiocarpeae Corner

Corner, Gard. Bull. Sing. 18 (1960) 22.

F. diandra Corner sp. nov. (Text-Fig. 6)—Scandens, radicibus affixa, glabra v. novellis puberulis brunneo-pruinosis. Ramuli 1–1.5 mm. crassi. Stipulae 4–7 mm. longae, persistentes. Lamina 4–9 × 2–4.2 cm., elliptica v. ovato- v. obovato-elliptica, acute, basi anguste cordata, saepe subinaequilateralis, coriacea integra, haud scabrida; costis lateralibus utrinsecus 3–5, angulo lato orientibus, inarcuatis, supra obscuris, haud impressis, subtus vix elevatis, intercostis nullis: costis basalibus utrinsecus 1–2 brevibus: petiolo 4–20 mm. longo. Receptacula axillaria solitaria v. ad ramulos efoliatos –15 mm. longos, pallide marmorata, maturitate rubro-aurantiaca; pedunculo 1.5–4 mm. longo; bracteis basalibus 3, 1–1.5 mm. longis, ovatis acutis subcaducis; pedicello nullo; corpore receptaculi 12–14 × 11 mm. (vivo) ellipsoideo, minute brunneo-furfuraceo, ostiolo 2 mm. lato leniter immerso, bracteis 3 apicalibus planis occluso; setis internis et cellulis scleroticis parietalibus nullis. Tepala 3–4 (masc.), 4–5 (cecid.), membranacea, pallide rosea. Flores masculi dispersi copiosi, fl. cecid. superantes; pedicellis 0.5–2 mm. longis; tepalis lanceolatis, breviter gamophyllis. Flores cecidiophori sessiles; tepalis lanceolato-filiformibus brevissime connatis; ovario brunneo indurato sessili v. breviter stipitato; stylo breviter bilobato. Flores fem. ? Cystolitha hypogena. Sarawak, ad basim trunci *Durionis zibethini,* ad viam Kuching-Matang. S. 13740 (typus, herb. Cantab.), leg. E. J. H. Corner 26 Sept. 1961.

To place this species in sect. *Kalosyce* (one stamen) seems wrong. Sect. *Rhizocladus* Endl. ser. *Distichae* Corner seems the right place for the bistaminate flower. In other points, however, as the marbled fig, the pedicellate male flowers, the membranous tepals, and the bifid stigma, the species agrees with sect. *Kalosyce,* and it is very close to *F. warburgii* Elm. which has usually one, rarely two, stamens. *F. warburgii* differs specifically in the obtuse, obovate lamina with cuneate base, the more numerous lateral nerves (5–8 pairs), and the larger fig with long pedicel. Both species may, nevertheless, be relics, much diminished in stature, of the bistaminate ancestors of sect. *Kalosyce* as would link it with ser. *Distichae* and ser. *Trichocarpeae.* The indurate gall-ovary of both species recalls that of *F. hederacea* Roxb. in ser. *Distichae.* Female flowers and seeds are still unknown in both *F. diandra* and *F. warburgii.*



Text-Fig. 6. *F. diandra* Corner; leaves × ½; fig, × 2; fig-apex, × 4; male and gall-flowers, × 10.

subgen. Ficus sect. Sycocarpus Miq.

Corner, Gard. Bull. Sing. 18 (1960) 37.

The numerous species of this section are the most difficult to classify. The discovery of two new and demonstrative species, *F. moderata* and *F. virescens,* on Kinabalu raises the hope that others will be found equally elucidating. *F. virescens* emphasizes the importance of geographical distribution in a section of recent evolution, as seems to be the state in *Sycocarpus;* its allies *F. treubii* King, *F. francisci* Winkler, and *F. cereicarpa* Corner are also endemic in Borneo. On this note I take the opportunity to revise the classification of *F. oligodon* Miq. (*F. pomifera* Wall. ex King).

subsect. **Papuasyce** Corner subsect. nov.—Semina 1.2–1.5 mm. longa, lentiformia, subcompressa, vix carinata, hilo non prominenti. Perianthium rubrum saccatum, ovaria feminea et cecidiophora albida obtegens. Stamina 2 (–1), libera. Receptacula pedunculata, basi tribracteata, bracteis lateralibus nullis; setis internis nullis; cellulis scleroticis in pariete receptaculi nullis v. paucis. Folia plus minus coriacea integra spiraliter disposita. Cystolitha hypogena. New Guinea, *F. itoana* Diels (typus), *F. microdictya* Diels.

In my earlier paper, cited above, I instituted subsect. *Pomifera* Corner, with *F. oligogon* as type, to include also *F. itoana, F. microdictya,* and *F. griffithii* Miq. In the meantime I have learnt from J. T. Wiebes, at the Rijksmuseum v. Natuurlijke Historie in Leiden, who is studying the fig-insects that I have managed to collect, that the fig-insects of *F. oligodon* agree with those of *F. auriculata* Lour. in sect. *Neomorphe* King, whereas those of *F. itoana* and *F. microdictya* agree with the fig-insects of sect. *Sycocarpus* subsect. *Auriculisperma* Corner (Solomon Isl.) and subsect. *Dammaropsis* (New Guinea). This confirms the botanical evidence. *F. oligodon* has very much the same distribution on the Asiatic mainland as *F. auriculata,* but *F. oligodon* extends down into the Malay peninsula as far as the south of Selangor and Pahang. Here it has the typical form which, in floral detail, agrees exactly with sect. *Sycocarpus,* particularly with *F. itoana.* In Burma, Indochina, and Thailand, however, it intergrades with *F. auriculata* in leaf-shape, hairiness, and the critical construction of the perianth, which is saccate and entirely covering the ovary in *F. oligodon,* and composed of three short separate tepals in *F. auriculata.* The fact is that, in this prime respect in the classification of the genus, the one species belongs in sect. *Sycocarpus* and the other in sect. *Neomorphe;* the allies of the first are with it on the Asiatic mainland, while its false allies are in New Guinea with their relatives.

The first reaction might be to join sect. *Neomorphe* with sect. *Sycocarpus,* but this would be neither useful nor beneficial. *Sycocarpus* hangs together in enormous complexity in eastern Malaysia and its origin is not to be sought in modern *Neomorphe.* The alternative, which I assume, is that *F. oligodon* represents a parallel in floral evolution to *Sycocarpus.* Confirmation lies in *F. variegata* Bl. var. *chlorocarpa* King (sect. *Neomorphe*) which in south China has also developed the saccate perianth covering the ovary and is in fact so similar to *F. oligodon* that it is generally necessary to examine the flowers in order to distinguish herbarium-material. *F. rivularis* Merr. (Philippines) of sect. *Ficus* is another peculiar species convergent in this way on *Sycocarpus.*

Accordingly, I reduce subsect. *Pomiferae* Corner and ser. *Pamiferae* Corner to sect. *Neomorphe* ser. *Auriculatae* Corner. I erect

subsect. *Papuasyce* for the two New Guinea species, and another subsect. *Leptotus* (below) for the aberrant *F. griffithii*. Nevertheless, *F. oligodon* must still be keyed out in sect. *Sycocarpus;* its exclusion from subsect. *Papuasyce* scarcely alters the definition. Parallel evolution is rife in *Ficus,* but this is the most perplexing case. Entomology has come to the rescue.

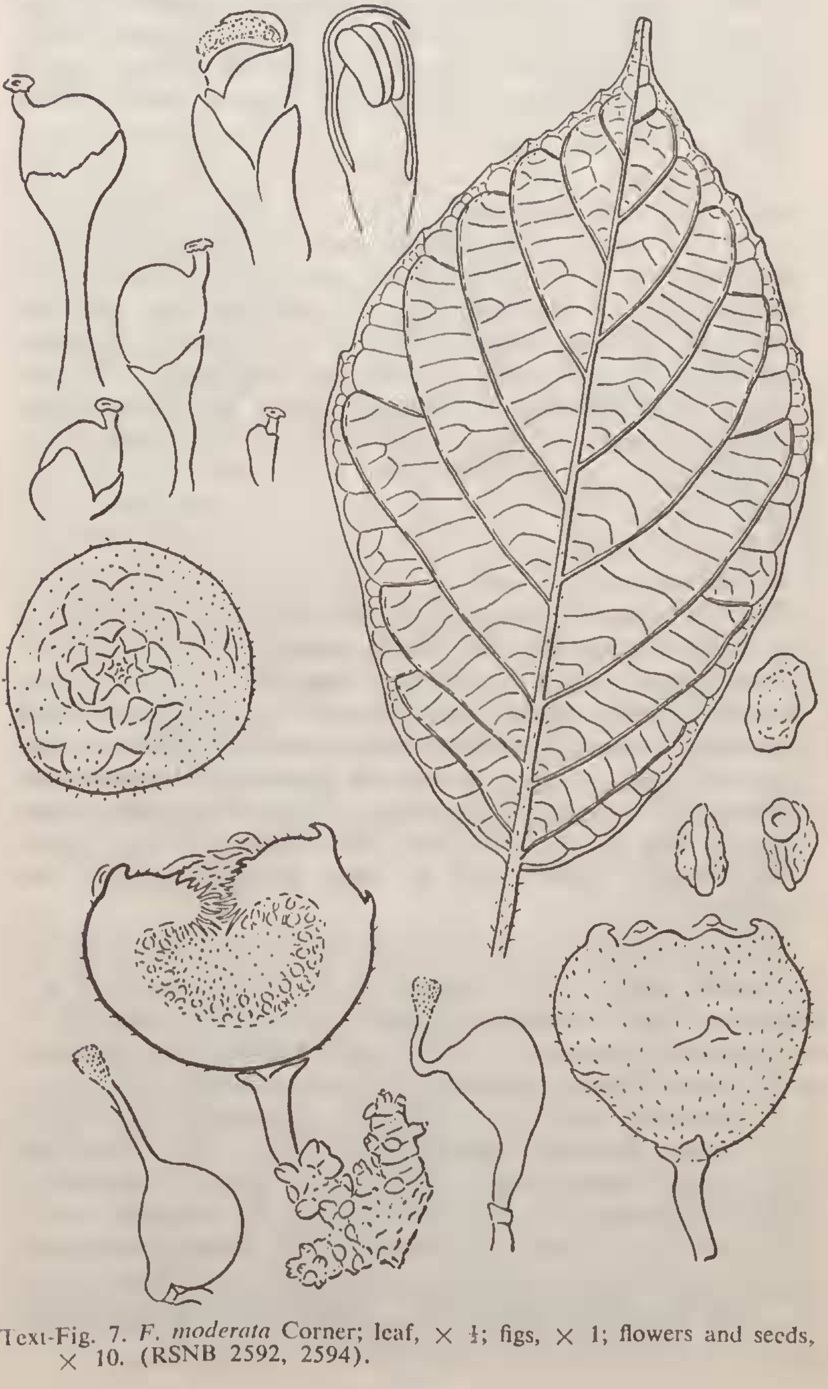
subsect. **Lepidotus** Corner subsect. nov.—ser. *Lepidotae* Corner Gard. Bull. 18 (1960) 39.—Semina 1 mm. longa, lentiformia, subcarinata, hilo non prominenti. Perianthium rubrum saccatum, ovaria feminea et cecidiophora obtegens. Stamen 1. Receptacula bracteis lateralibus praedita; setis internis et cellulis scleroticis nullis. Folia membranacea spiraliter disposita. Cystolitha hypogena. Burma, Thailand, *F. griffithii* Miq.

subgen. Ficus sect. Sycocarpus Miq. ser. Tuberculifasciculatae Sata subser. Hispidae Corner

F. moderata Corner sp. nov. (Text-Fig. 7)—Arbor –9 m. alta, sparsim ramosa, cauliflora; foliis spiraliter instructis, interdum oppositis. Ramuli et petioli pilis patentibus pallidis v. brunneolis –1.5 mm. longis tenue vestiti; nervi subtus puberuli, glabrescentes. Ramuli 3–4 mm. crassi, fistulosi. Stipulae –15 mm. longae, caducae, lanceolatae, glabrae v. basim versus pilosae. Lamina 8–21 × 4.5–11 cm., elliptica v. obovata, subacuminata, apice obtuso subcaudato –15 mm. longo, basi late cuneato v. anguste subcordato, saepe leniter asymmetrico, integra v. apicem versus dentata, laevis, tenue subcoriacea, sicco brunnea; costis lateralibus utrinsecus 6–8, obliquis; intercostis 4–11, regulariter instructis, subtus elevatis; costis basalibus utrinsecus 2, brevibus, raro ad 1/3 laminae extensis; petiolo 9–25 mm. longo, glandula subnodali praedito. Receptacula ad ramulos ramosos cauliflores –5 cm. longos dense aggregata, maturitate flava, primo brunneolo-pilosa; pedunculo 4–14 mm. longo; bracteis basalibus 2–3 mm. longis, ovatis subacutis; pedicello nullo; corpore receptaculi 15–23 mm. lato (20–30 mm., vivo), subturbinato, bracteis lateralibus ovatis apicibus incurvatis 1–3, 2–3 mm. longis, ad parietem affixis, circum ostiolum 5–8 mm. latum bracteis numerosis occlusum lateralibus pluribus insertis; setis internis nullis; cellulis scleroticis ut lamina angusta in pariete receptaculi. Flores masculi ordinibus duobus instructi; stamen 1. Flores cecidiophori sessiles v. pedicellati; perianthio saccato ovarium primo includenti dein disrupto. Flores feminei sessiles v. breviter pedicellati; perianthio ut collare brevissimo; stylo glabro v. setis 1–2 praedito. Semina 1 mm. longa, carinata, hilo prominenti, obscure subtuberculata v. gibbosa. Cystolitha hypogena. RSNB 2592, in silvis secundariis pr. Kundasan 1,200 m. alt., North Borneo, (typus, herb. Kew); RSNB 2594 (recept. cecidioph.).

This has the leaves of *F. congesta* Roxb. and the yellow figs with lateral bracts of *F. hispida* Linn. f. In bridging, therefore,

the two subseries Congestae and Hispidae it is another example of the importance of the region of Kinabalu to the study of *Ficus*. *F. hispida* is known merely from two collections in Borneo, one in West Koetai, the other without local detail, and I have not seen it myself in Sarawak, Brunei, or North Borneo. *F. congesta* has no certain record from Borneo.



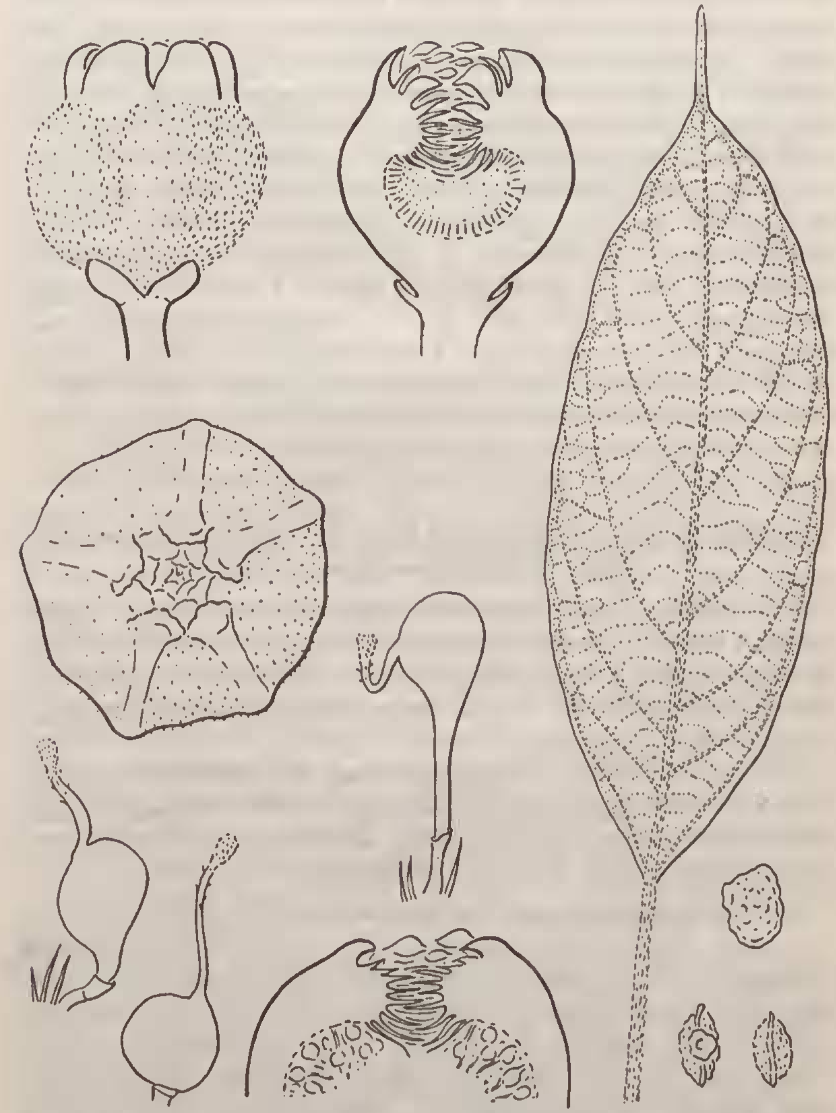
Text-Fig. 7. *F. moderata* Corner; leaf, × ½; figs, × 1; flowers and seeds, × 10. (RSNB 2592, 2594).

subgen. Ficus sect. Sycocarpus Miq. ser. Tuberculifasciculatae Sata subser. Fulvidulae Corner

F. virescens Corner sp. nov. (Text-Fig. 8)—Arbor –13 m. alta cauliflora. Folia spiraliter instructa v. opposita. Ramuli, petioli, stipulae, costae subtus, et receptacula juvenilia pilis fulvidulis appressis 0.5 mm. longis vestiti; lamina superne glabra. Ramuli 2–4 mm. crassi, lente glabrescentes, fistulosi. Stipulae –15 mm. longae, caducae. Lamina 12–30 × 4–12 cm., anguste elliptica, ad apicem acuminatum abrupte caudatum 12–30 mm. longum angustata, basi cuneato symmetrico, integra v. subdenticulata, tenue subcoriacea, superne laevis, subtus subscabrida, in sicco superne grisea, subtus cinereo-viridis et valde punticulata; costis lateralibus utrinsecus 5–7, subtus acute elevatis; intercostis –11, vix elevatis, confertis; costis basalibus utrinsecus 1 brevibus; petiolo 15–70 mm. longo, glandula subnodali praedito. Receptacula ad ramulos efoliatos caulifloros sine internodis elongatis –30 cm. longos, basi 1–3 cm. crassos, aggregata, maturitate flavo-brunnea, glabrescentia; pedunculo 5–22 mm. longo, glabro; bracteis basalibus 3, ternata, 2.5–4 mm. longis, glabris; corpore receptaculi 14–15 mm. lato (20–22 mm., vivo), subellipsoidea, bracteis lateralibus nullis, apicem versus 5–6-costato, ostiolo inter 5–6 bracteis apicalibus umbonatis immerso, ostiolo in statu juvenili bracteis numerosis parvis in disco –10 mm. lata praedito et bracteis 5–6 erectis marginalibus circumdato; setis internis copiosis 0.5 mm. longis; cellulis scleroticis in pariete receptaculi nullis. Flores masculi ordine uno instructi, stamine uno. Flores cecidiophori juveniles perianthio saccato ovarium tegenti. Flores feminei sessiles v. breviter pedicellati; perianthio ut collare angusto stipitem ovarii complectanti; stylo puberulo. Semina 1 mm. longa, hilo prominenti, reticulato-subtuberculata. Cystolitha hypogena. RSNB 965, in silva prope rivulum 900 m. alt., Kinabalu (east ridge), 25.vii.61, (typus, herb. Kew.); RSNB 2543, pr. flum. Liwagu 1,200 m. alt., 29.viii.61.

This species resembles *F. treubii* King in so many respects that, confronted with it in the herbarium, one might regard it as a sapling state with radial arrangement of the leaves on stouter twigs and incipient geocarpy. Having studied two living and full-grown trees, I realise that it is distinct in both the radial construction and in the cauliflory, and this conclusion is confirmed by such details as the longer peduncle, larger basal and apical bracts, larger fig-body, shorter female perianth, and less hairy style. It elucidates, in fact, the peculiarity of *F. treubii* among the geocarpic figs of Borneo in subser. Geocarpicae because it represents the ancestral state with the more massive spiral construction and relates thereby *F. treubii* with subser. Fulvidulae, of which *F. cereicarpa* Corner and *F. francisci* Winkl. are also endemic in Borneo.

The peculiarities of *F. treubii* are the absence of conspicuous lateral bracts, the distinct peduncle and collar of basal bracts, the abundant internal bristles, the oblique lateral nerves, and the greenness of the dried leaf; these are the characters which ally it with *F. virescens*. In both the sides of the seed are conspicuously roughened whereas in the three other species of subser. Fulvidulae they are nearly or quite smooth. This is a detail the importance of which is not clear. In view of the close correspondence in other respects and of the striking series of cauliflorous forms from large multibracteate figs of *F. cereicarpa* to the small figs of *F. virescens*



Text-Fig. 8. *F. virescens* Corner; leaf, × ½; figs (the upper two immature), × 2; female flowers and seeds, × 10. (RSNB 965).

and the geocarpy of *F. truebii* with distichous leaves, I remove *F. treubii* from subser. Geocarpicae, where I had tentatively placed it, to subser. Fulvidulae.

F. virescens also resembles *F. schwarzii* Koord. (*F. miquelii* auct.) and *F. scortechinii* King. They are both advanced species with slender distichous construction of the twigs, as in *F. treubii*. The mature fig of *F. virescens* is very similar to that of *F. scortechinii*, while the young fig resembles that of *F. schwarzii*. The ribbing of the fig-body towards the prominent peripheral apical bracts in *F. virescens* and *F. scortechinii* indicates the incorporation of the lateral bracts in the apical rosette; thus, this feature, the significance of which had not been clear to me, marks the change-over from the fig with lateral bracts to that without, and places *F. virescens* in this respect between *F. cereicarpa* and *F. treubii*. The same feature appears in the geocarpic *F. ternatana* Miq. and *F. pleyteana* Corner, also of distichous habit with short, pale brown, appressed hairs as in *F. treubii*. They both differ, however, in the abundant sclerotic cells in the fig-wall, as well as in the brown colour of dried leaves, and they are species of eastern Malaysia from the Moluccas to New Guinea; they are probably convergent with *F. treubii*, as the eastern *F. arfakensis* King is convergent in the subseries of *F. congesta*. *F. schwarzii* may belong to this subseries, where I have classified it, but the position of *F. scortechinii* needs further investigation, particularly in Borneo where the new variety v. *lanceata* here described suggests that its more generalised form may yet exist.

subgen. Ficus sect. Sycocarpus Miq. ser. Tuberculifasciculatae Sata subser. Geocarpicae Corner

F. megaleia Corner Gard. Bull. Sing. 18 (1960) 57. var. **multinervia** Corner v. nov.—Ad omnes partes pili –1 mm. longi fulvi dense appressi. Costae laterales utrinsecus 14–24; basales 4–6 plus 9–11. RSNB 970, in locis terrae delapsae, 900 m. alt., Kinabalu, 25.vii.61 (typus herb. Kew.).

This is probably a wide-spread variety on Kinabalu; it was collected several times without number by the Clemens, but the lamina is too large for the making of convenient specimens. The hanging pink young leaves are conspicuous.

var. **subuncinata** Corner var. nov.—Ramuli et petioli pilis fulvis 1–2 mm. longis curvato-ascendentibus vestiti. Costae laterales utrinsecus 7–9; basales 3–4 plus 6–7. Receptacula sicca 10–12 mm. lata, semper glabra. RSNB 1576, in locis terrae delapsae, 1,500 m. alt., Kinabalu (east ridge), 31.vii.61, (typus herb. Kew.).

Six trees, to 3 m. high, were found. They had the large leaves with strongly, and asymmetrically, cordate base as in *F. megaleia* but the glabrous figs of *F. uncinata*, of which they would pass in the herbarium as v. *pilosior*.

F. uncinata Becc. var. **subbeccarii** Corner v. nov.—Ramuli, petioli et costa (subtus) pilis appressis fulvis v. fusco-brunneis 0.5–1 mm. longis vestiti; subtus nervulis pallidis minoribus. Stipulae 10–20 mm. longae, persistentes, lanceolatae. Lamina 10–30 × 4.5–10.5 cm., obovata, apice –15 mm. longa acuminata, basi anguste asymmetrico, uno latere anguste cuneato, altero cuneato-subcordato, integra, superne pilis sparsis appressis scabrida; costis lateralibus utrinsecus 4–7; intercostis –8, subtus elevatis, regulariter instructis; basalibus 2 plus 4. Receptacula sicca 14–20 mm. lata, hispido-strigosa. Semina 0.6 mm. lata. RSNB 1619, ad ripem flum. Mamut, 1,200 m. alt., 4.viii.61, (typus, herb. Kew.); RSNB 2541, ad ripem flum. Liwagu, 1,200 m. alt., 29.viii.61.

F. beccarii differs from the varieties of *F. uncinata* with hairy figs, such as var. *strigosa,* only in the characters of the leaf, particularly its smooth upperside and symmetric base. I have studied a great many plants of both in the forest and seen no intermediate until I met with these two plants on Kinabalu; they have the almost symmetric leaf of *F. beccarii* but the scabrid and appressedly hairy upperside of *F. uncinata.* Hasty collecting of these startling, but awkward, geocarpic species gives the impression of a few distinct species; actually they are all extremely variable and in need of much further field-study.

subgen. Ficus sect. Sycocarpus Miq. ser. Tuberculifasciculatae Sata subser. Tuberculifasciculatae

F. scortechinii King var. **lanceata** Corner var. nov.—Arbor –3 m. alta. Internodi et nervi in juventute pilis pallidis, plus minus appressis, –0.5 mm. longis, sparsim vestiti, glabrescentes aliter glabra. Folia opposita vel spiraliter instructa, dein subdisticha. Lamina 6–20 × 1.6–4 cm., lanceolata, attenuato-acuta, basi cuneato, apicem versus serrulata v. integra; costis lateralibus utrinsecus 6–10; petiolo 5–10 mm. longo. Receptacula ad ramulos paniculato-ramosos –8 cm. longos, 4–6 mm. latos, basi 10 mm., in cumulis caulifloris –15 cm. latis affixa, maturitate rubrocarnea; pedunculo 10–20 mm. longo; bracteis basalibus 0.5–1 mm. longo; corpore receptaculi 7–9 mm. lato (11–13 × 10–12 mm., vivo), saepe irregulariter tuberculato, ad apicem subdepressum valde costato; setis internis et cellulis scleroticis nullis. Perianthium femineum ut collare brevissimum; stylo puberulo v. subglabro. RSNB 2815, in silva, 1,500 m. alt., Kinabalu pr. Tenompok, 6.ix.61, (typus herb. Kew.).

If I had not carefully collected this, I should have taken it to be a mixture of the leaves of *F. tarennifolia* and the figs of *F. scortechinii.* It is less hairy than *F. scortechinii,* the figs being glabrous from the first. Because of the characteristic ribbing of the figs and of the manner in which they are borne, I refer the collection to *F. scortechinii,* even though this species of Burma, Thailand, and Malaya has not been found in Borneo. The warts, commonly present on the figs, do not seem to be caused by insects.